

ABSTRACT

A method is provided for using a silanized silica matrix to isolate a target nucleic acids, such as plasmid DNA, fragments of DNA, chromosomal DNA, or RNA from contaminants, including proteins, lipids, cellular debris, or non-target nucleic acids. The  
5 silanized silica matrix comprises a silica based solid phase and a plurality of silane ligands covalently attached to the surface of the solid phase. Non-target material adsorbs to the silanized silica matrix in the presence of a sufficient concentration of chaotropic salt, while target nucleic acids adsorb to the matrix under other solution conditions. The method of  
10 using the silanized silica matrix of the present invention can be used to clear solutions of disrupted biological material, and to isolate nucleic acids therefrom or from other solutions containing nucleic acids and at least one contaminant.